

Appendix F

Data Requirements for the IPET Study

Table F-1 below provides a listing of the data requirements based on input from the IPET Task Co-leaders. Each item is categorized as perishable, background, or new data. The color-coding in the table represents the data that has been posted to the Repository, where yellow represents partial or preliminary data and green represents complete data.

Table F-1		
Item #	Item	Perishable/Background/New
1	Post hurricane levee heights, profiles and alignments.	Perishable
2	Ground Surveys and Profiles of Ground and Structures(project/site, location, x,y,z, description, date, time, reference point for survey); pre- and post-storm canal cross-sections; GIS layer of canal centerlines and invert elevations	Perishable/ Background
3	Ground-based LIDAR of breaches (project/site, location, x,y,z, description, photos, date, time, reference point for survey)	Perishable
4	Breach configurations - locations, depth, width, descriptions, photos, erosion extents, date and time started and date and time fully developed.	Perishable
5	Land side scour locations	Perishable
6	High Water Marks	Perishable
7	Time history of events; Timeline of Katrina and Observed System Response - temporal hurricane track, observations: surge, flooding, wave heights, currents (direction, magnitude), pump operation, levee damage, debris in canals (quantity, composition), barges, boats, etc.; Eyewitness Accounts of the failures (project/site, location, x,y,z, description, date, time, reference point for survey); Interviews with USACE operators and emergency ops personnel concerning system performance;	Perishable
8	Geo-referenced photos of failure sites (x,y,z, project/site, description, measurement of erosion depth and breadth, date, time)	Perishable
9	Damage Survey Reports (project/site, location, x,y,z, description, photos, date, time, reference point for survey)	Perishable
10	Evidence of structural failure mechanisms (sheet pile depts, sheet pile embedment in concrete, concrete conditions)	Perishable

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Item #	Item	Perishable/Background/New
11	Repair records of emergency breach closures, photos of features buried during repairs	Perishable
12	; Bottom Profile of Canals, Bathymetric surveys, Scour Surveys (project/site, location, x,y,z, description, date, time, reference point for survey); Multi-beam sonar survey of bathymetry, sub-bottom characteristics (converted to x,y,z geo-referenced data and geo-referenced locations of scour and soil failures	Perishable/ New
13	Model results for Sequential Water Level (project/site, location, x,y,z, description, date, time, reference point for survey)	Perishable
14	Unwatering - Pump Flow rates and location of Discharge as a function of time	Perishable
15	combined TIN of land surface and detailed canals for each parish	New
16	DEM of all 5 parishes, pre-storm and post-storm DEM and structure/levee crest elevations	New
17	Top of floodwall and crest of levee surveys (project/site, location, x,y,z, description, date, time, reference point for survey); Survey of levee 'crest' elevations (perhaps DGPS on a 4-wheeler plus local surveys of tops of flood walls); Actual top and bottom of wall elevations (project/site, location, x,y,z, description, date, time); Levee and Flood Wall alignments and elevations (preferable in GIS)	Background/New
18	As-built cross-sections of levees (project/site, location, x,y,z, description, date, time, reference point for survey)	Background
19	Detailed surveys and/or as built plans for all Culverts (location, size, invert elevations of all culverts that bring flow into the canals from the land surface side)	Background
20	Detailed surveys and/or as built plans for all bridges in the study area	Background
21	Land use data (GIS layer)	Background
22	Soils data (STATSGO data)	Background
23	Drainage network GIS layer	Background
24	Digital Background maps and GIS layers (USGS digital quads, orthophotos, parcel data, streets and roads, etc...)	Background
25	Flood inundation maps resulting from hurricane Katrina (GIS layers showing flood boundaries of the event, with water surface elevations if possible)	New
26	Detailed project maps of the pre-Katrina system	Background
27	Historic precipitation data	Background
28	Historic stream gage data, high water marks, and pump station data for use in calibration of models; MVN Historical River Gage Records and associated benchmark reference data	Background
29	Tidal gage records and related analysis	Background
30	Geodetic Survey Archive Data (1960 to date)	Background
31	Storm surge histories	Background
32	System performance during past storm events	Background
33	Design Memos	Background
34	Plans and Specifications	Background
35	As Built Drawings	Background
36	Support Computations	Background
37	Construction QA Records	Background

Table F-1		
Item #	Item	Perishable/Background/New
38	Field Investigations	Background
39	Periodic Inspections	Background
40	A&E Reports	Background
41	Project modifications	Background
42	Construction reports	Background
43	Conference and Journal Articles	Background
44	Court records for Cases involving Levee Constructions	Background
45	Pump station data (location, number of pumps, pump capacity and efficiency curve for each pump, normal water surface elevation at which pump is turned on and off)	New
46	Pump station operation timeline, detailed	New
47	Pump stations performance output from Task 8	New
48	Stream gage information (time series of stages and flows at all possible locations) during Katrina	New
49	Hurricane Katrina Precipitation data (point data and NexRad radar data)	New
50	Lake Pontchartrain stage data	New
51	Models and Studies that have been performed by the District office and others	Background
52	Surge heights and hydrographs (pre, post, and during Katrina); measured water level hydrographs	New
53	Levee and floodwall failure modes (input data used to analyze floodwalls and levees, material strength distributions, uncertainty in sheet pile depth)	New
54	Soil Boring (project/site, location, x,y,z, description, graphs, date)	New
55	CPT Data (project/site, location, x,y,z, description, graphs, date)	New
56	Laboratory Logs (project/site, location, x,y,z, boring number, description, graphs, date)	New
57	Soil Test Data (project/site, location, x,y,z, boring number, description, graphs, date)	New
58	Soil Material Properties (project/site, location, x,y,z, description)	New
59	Sheet Pile Test Data (project/site, location, x,y,z, description, graphs, photos)	New
60	Concrete Test Data (project/site, location, x,y,z, description, graphs, photos)	New
61	Steel Reinforcement Test Data (project/site, location, x,y,z, description, graphs, photos)	New
62	Instrumentation (piezometer, slope inclinometers, wall deflection gages, etc.) (project/site, location, x,y,z, description, graphs, photos, date, time)	New
63	Reference Elevation/Datum (reference controlling benchmarks) for all LIDAR/DEM/Aerial mapping recently flown. Ensure all topographic DEM data is referenced to the same SE Louisiana Vertical Time-Dependent Reference framework and related water surface references	New
64	MVN Vertical Control/Topographic Surveys of Levees	New
65	vertical data survey of pump house monuments	New
66	Timeline of baseline water level data at station inlet and outlet - Task 2	New

Table F-1		
Item #	Item	Perishable/Background/New
67	Timeline of actual water level data at station inlet and outlet-Task 3	New
68	interpretation of pre-storm ground cover throughout the domain, or imagery to assess ground cover	New
69	Photos from historical hurricanes affecting these areas	Background
70	Aerial and Satellite Image (project/site, location, x,y,z, description, date, time)	New
71	Aerial videos (date, time, project/site, location, description)	New
72	Aerial photography of before flood and during flood	Background/New
73	Tasks 2, 3, 4, 8, 9 results	New
74	System models used by Task 5	New
75	Task 4 Wave/Water heights	New
76	Task 5a Physical Model Data	New
77	Surficial sediment concentration of contaminants in the canals and lake - value, location, time	Perishable
78	Total organic carbon concentration of bottom sediments in canals and lake - value, location, and time	Perishable
79	Analysis of benthos in sediments near pumps	Perishable
80	Wetland assessment and ground truthing in St. Bernard Parish	Perishable
81	Fish contaminant assessment	Background
82	Fish Health Assessment	Background
83	Endangered and Threatened fish assessment	Background